AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A polycrystalline semiconductor thin film substrate comprising an insulative substrate and a polycrystalline semiconductor thin film formed on one surface of the insulative substrate, wherein the polycrystalline semiconductor thin film is formed by a plurality of laser irradiation steps, wherein the laser irradiation steps are carried out so that, after the last laser irradiation step, the number of crystal grains with the number of closest crystal grains of 6 is greatest among plural crystal grains that form the polycrystalline semiconductor thin film.

2. (Original) A polycrystalline semiconductor thin film substrate as defined in claim 1, wherein the roughness of the grain boundaries on the surface of the polycrystalline semiconductor thin film is 5 nm or less.

3. (Currently Amended) A semiconductor device comprising plural transistors formed in a polycrystalline semiconductor thin film, wherein the polycrystalline semiconductor thin film is formed by a plurality of laser irradiation steps, wherein the laser irradiation steps are carried out so that, after the last laser irradiation step, the number of crystal grains with the number of closest crystal grains of 6 is greatest among plural crystal grains that form the polycrystalline semiconductor thin film.

4. (Original) A semiconductor device as defined in claim 3, wherein the roughness of the grain boundaries on the surface of the polycrystalline semiconductor thin film is 5 nm or less.

5. (Currently Amended) A semiconductor device comprising plural transistors formed in a polycrystalline semiconductor thin film, wherein the polycrystalline semiconductor thin film is formed by a plurality of laser irradiation steps, wherein the laser irradiation steps are carried out so that, after the last laser irradiation step, within a square region with a 10 μ side, 50 to 100% of the crystal grains have the number of closest crystalline grains of 6 and are present in an area including the center of the polycrystalline semiconductor thin film.

6. (Original) A semiconductor device as defined in claim 5, wherein the roughness of the grain boundaries on the surface of the polycrystalline semiconductor thin film is 5 nm or less.

7. (Canceled)

8. (Currently Amended) An electronic apparatus comprising a semiconductor device in which plural transistors are formed in a polycrystalline semiconductor thin film, wherein variation in the threshold voltage of the plural transistors is 0.1 V or less, wherein the polycrystalline semiconductor thin film is formed by a plurality of laser irradiation steps, wherein the laser irradiation steps are carried out so that, after the last laser irradiation step, the number of crystal grains

with the number of closest crystal grain of 6 is greatest among plural crystal grains that form the polycrystalline semiconductor thin film.

9. (Original) An electronic apparatus as defined in claim 8, wherein the roughness of the grain boundaries on the surface of the polycrystalline semiconductor thin film is 5 nm or less.

10. (Currently Amended) An electronic apparatus comprising a semiconductor device in which plural transistors are formed in a polycrystalline semiconductor thin film, wherein the polycrystalline semiconductor thin film is formed by a plurality of laser irradiation steps, wherein the laser irradiation steps are carried out so that, after the last laser irradiation step, within a square region with a 10 μm side, 50 to 100% of the crystal grains have the number of closest crystalline grains of 6 and are present in an area which includes the center of the polycrystalline semiconductor thin film.

11. (Original) An electronic apparatus as defined in claim 10, wherein the roughness of the grain boundaries on the surface of the polycrystalline semiconductor thin film is 5 nm or less.

12. (Previously Presented) An electronic apparatus as defined in claim ~~7~~8, wherein the electronic apparatus is a liquid crystal display, the semiconductor device has transistors for operating each of pixels of a liquid crystal display panel and

transistors constituting peripheral driver circuits and is stacked and attached on the liquid crystal display panel of the liquid crystal display.

13. (Previously Presented) An electronic apparatus as defined in claim 8, wherein at least one of a central processing unit, a cache circuit, a memory circuit, a peripheral circuit, an input/output circuit and a bus circuitry are formed with the transistors of the semiconductor device.

14. (Previously Presented) A method of manufacturing a polycrystalline semiconductor thin film substrate by forming an amorphous semiconductor thin film on the surface of an insulative substrate, then irradiating the amorphous semiconductor film with a laser beam thereby to crystallize the amorphous semiconductor film and forming a polycrystalline semiconductor thin film, wherein the method comprises irradiating the rear face of the insulative substrate or the amorphous semiconductor film with a UV-ray thereby to heat the amorphous semiconductor film to a melting temperature or lower, and repeatedly irradiating the surface of the amorphous semiconductor film with a laser beam at a suitable shape selection laser energy density Ec to form the greatest number of crystal grains with the number of closest crystal grains of 6 within the polycrystalline semiconductor thin film, synchronizing the period of the laser beam irradiation and the period of the UV-ray heating, and dividing, by an optical component, the laser beam into two optical channels with the optical length of one of them being made longer such that it reaches the laser beam irradiation position with a delay, thereby forming the polycrystalline semiconductor thin film.

15. (Original) A method of manufacturing a polycrystalline semiconductor thin film substrate as defined in claim 14, wherein one of the laser beams divided into two optical channels that passes through a channel of a shorter optical wavelength is attenuated by being passed through an optical attenuator and caused to reach the laser beam irradiation position, thereby forming the polycrystalline semiconductor thin film.

16. (Currently Amended) A semiconductor device in which a transistor is formed in a polycrystalline semiconductor thin film, wherein the polycrystalline semiconductor thin film is formed by a plurality of laser irradiation steps, wherein the laser irradiation steps are carried out so that, after the last laser irradiation step, the number of crystal grains with the number of closest crystal grains of 6 is greatest among plural crystal grains forming the channel region of the transistor.

17. (Currently Amended) A semiconductor device in which plural transistors are formed in the polycrystalline semiconductor thin film wherein the polycrystalline semiconductor thin film is formed by a plurality of laser irradiation steps, wherein the laser irradiation steps are carried out so that, after the last laser irradiation step,, within a square region with a 10 μm side, 50 to 100% of the crystal grains have the number of closest crystalline grains of 6 and are present in an area which includes the center of the polycrystalline semiconductor thin film.

18. (Original) A semiconductor device as defined in claim 17, wherein the roughness of the grain boundaries on the surface of the polycrystalline semiconductor thin film is 5 nm or less.

19. (Currently Amended) An electronic apparatus having plural transistors formed in a polycrystalline semiconductor thin film, wherein the polycrystalline semiconductor thin film is formed by a plurality of laser irradiation steps, wherein the laser irradiation steps are carried out so that, after the last laser irradiation step, the number of crystal grains with the number of closest crystal grains of 6 is greatest among plural crystal grains forming the polycrystalline semiconductor thin film.

20. (Original) An electronic apparatus as defined in claim 19, wherein the roughness of the grain boundaries on the surface of the polycrystalline semiconductor thin film is 5 nm or less.